

AMENDMENTS TO THE SPECIFICATION

Please replace paragraph the paragraph beginning at Page 3, line 30 which begins with "Figs. 21A-21C" with the following paragraph:

~~Figs. 21A-21C Describe~~ Figs. 21A-21E illustrate various types of discontinuous films which can be used in an IMod structure.

Please replace the paragraph beginning at Page 36, line 1 which begins with "Figures 21B" with the following paragraph:

~~Figure 21B reveals~~ Figures 21B and 21C reveal a coating 2120 that has been deposited on substrate 2122 and could also be of a metal, dielectric, or semiconductor. Figure 21B depicts a side view of the coating and substrate, and Figure 21C depicts a top view of the coating and substrate. The film, in this case, is still in the early stages of formation, somewhere below 1000 angstroms in thickness. During most deposition processes, films undergo a gradual nucleation process, forming material localities that grow larger and larger until they begin to join together and, at some point, form a continuous film. 2124 shows a top view of this film. The optical properties of films in the early stage differ from that of the continuous film. For metals, the film tends to exhibit higher losses than its continuous equivalent.

Please replace the paragraph beginning at Page 36, line 9 which begins with "Figures 21C" with the following paragraph:

~~Figure 21C illustrates~~ Figures 21D and 21E illustrate a third form of discontinuous film. Figure 21B depicts a side view of the film, and Figure 21C depicts a top view of the film. In this case, film 2130 has been deposited on substrate 2132 to a thickness, at least a thousand angstroms, such that it is considered continuous. A pattern of "subwavelength" (i.e. a diameter smaller than the wavelength of interest) holes 2134 is produced in the material using techniques which are similar to the self-assembly approach described earlier. In this case, the polymer can

Appl. No. : **09/413,222**
Filed : **October 5, 1999**

act as a mask for transferring the etch pattern into the underlying material, and the holes etched using reactive ion etch techniques. Because the material is continuous, but perforated, it does not act like the early stage film of ~~Figure 21B~~ Figures 21B and 21C. Instead, its optical properties differ from the un-etched film in that incident radiation experiences lower losses and may exhibit transmission peaks based on surface plasmons. Additionally, the geometry of the holes as well as the angle of incidence and refractive index of the incident medium may be manipulated to control the spectral characteristics of the light that is transmitted. 2136 shows a top view of this film. Films such as these are described in the paper "Control of optical transmission through metals perforated with subwavelength hole arrays" by Tae Jin Kim. While they are regular in structure, they differ from PBGs.